

The News Journal



January 3, 2013

UD's latest vision steadily takes shape



Ken Wassmer, of Conowingo, Md., is the general manager of the construction. / EMILY VARISCO/THE NEWS JOURNAL

NEWARK — The University of Delaware's Interdisciplinary Science and Engineering Laboratory, the largest construction project in the school's 270-year history, has passed a major milestone with completion of the building's exterior.

The 197,000-square-foot building, known around [campus](#) as the "ISE Lab," is expected this fall to serve about 1,200 students each day who will attend class and hundreds of researchers who will use its high-tech offerings.



Windows on the third floor reveal the building's 'green roof.' / EMILY VARISCO/THE NEWS JOURNAL

Inside the massive structure that has risen into the campus landscape, a classroom environment unlike anything the university could offer before is taking shape. Construction crews have continued working through the early winter months on the building at the corner of Academy Street and Lovett Avenue.

“It’s going to be much more active [learning](#), much more engaging learning,” said Doug Doren, senior associate dean of natural sciences. “It will be the kind of experience students can’t get in an online course, and they can only get in a building like this.”

UD leaders believe the hands-on approach that blends different disciplines will distinguish the [education](#) the university offers from other institutions, and it could serve as a recruitment tool for new faculty members and prospective students.

The university has secured about \$35.1 million in private [funds](#), including a \$5 million donation from the DuPont Co. to name an instruction wing of the building DuPont Science Learning Center. Alumnus Robert W. Gore, of W.L. Gore & Associates and Gore-Tex fame, has pledged another \$10 million. UD hopes to raise \$21 million more in private contributions, and the project still could receive a lead gift that would rename the building something other than ISE Lab.

The \$132 million price tag does not include the tens of millions more UD will spend outfitting the research wing of the building with the most advanced equipment over the next several years. A 10,000-square-foot nanofabrication room alone will cost about \$13 million to equip.

The devices in the room, like much of the infrastructure in ISE Lab, will be a shared resource that will allow researchers to assemble and study complex materials on a molecular level.

No single professor could afford to buy such equipment, but having it available on campus could help UD faculty secure grant [funding](#) it could not have accessed otherwise.

“That [investment](#) will pay tenfold at least for science in Delaware,” said Eric Furst, a professor of chemical and biomolecular engineering.

Aside from the resources in nanofabrication [technology](#), the research wing also will feature an extensive microscopy suite with a variety of high-powered imaging devices. To eliminate any vibrations that would disturb readings, the microscopy rooms were built on top of concrete slabs completely detached from the main structure of the building with walls made of multiple layers of iron, aluminum and plywood.

To power ISE Lab’s tremendous energy needs, and future growth on campus, UD also built a \$36 million utility plant nearby, with a massive new air chiller that would be powerful enough to cool more than 2,000 houses.

Even if UD meets its fundraising goal, more than half the funding for construction of the lab still will come from its operating revenue.

“We’re trying to do a lot of things, but there’s going to be a period of time where this building is the focus, and a big part of our finances,” Doren said. “But we’re always working on other projects that serve other constituencies as well.”

The vast resources pouring into the project has sparked concern that the building will benefit engineering and sciences at the expense of other departments, such as [arts and humanities](#), that will get little use out of the facility.

UD leaders believe that perception does not have to be the reality. This fall they hired John Jungck as director of interdisciplinary science instruction to help coordinate the new building's use.

He has tried to spread the word on campus that the primary purpose of the building will be problem-based learning, an approach that does not exclude any academic discipline. For example, one course under consideration is the history of technology, Jungck said.

"I'm trying to reach out to folks in communications and humanities and other areas," he said. "Any people who are eager to think about problem-based learning can use this resource. If someone in philosophy has an idea, my door is open and I invite them to make a proposal."

The instructional wing of ISE Lab, the side located closer to Academy Street, focuses on integrating the classroom lectures with hands-on laboratory training in groups no larger than 48 students. In today's world, students need to do more than learn new concepts, Jungck said. They must show they can demonstrate and explain their discoveries.

"You cannot be a good scientist or a good anything these days if you can't communicate the importance of what you're doing to society," Jungck said. "Instead of building another building with 500-seat classrooms, we're building a facility where students can learn how to do that."

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